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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
(Case No.: 05-747)

In the Application of:  
Meinke et al. )  
Serial No.: 10/552,156 ) Examiner: Baskar  
Filing Date: October 11, 2005 ) Confirmation No.: 4561  
Title: Streptococcus Pyogenes Antigens ) Group Art Unit: 1645  
)  
)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

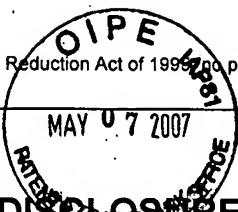
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Respectfully submitted,  
**McDonnell Boehnen Hulbert & Berghoff**  
By: \_\_\_\_\_  
Kevin E. Noonan, Ph.D.  
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Dated: May 1, 2007

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

( Not for submission under 37 CFR 1.99)

Application Number	10552156
Filing Date	2005-10-11
First Named Inventor	Meinke
Art Unit	1645
Examiner Name	Baskar, Padmavathi
Attorney Docket Number	05-747

**U.S.PATENTS**

Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	5744309			Patent Withdrawn	
	2	4946778		1990-08-07	Genex Corp	
	3	5849902		1998-12-15	Oligos Etc. Inc.	
	4	5989912		1999-11-23	Oligos Etc. Inc.	

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1	WO 02/059148	WO		2002-08-01	Cistem Biotechnologies GmbH		<input type="checkbox"/>
2	A-O 464 533	EP		1992-01-08	Behringwerke AG		<input type="checkbox"/>
3	2045869	CA		1991-12-29	Behringwerke Aktiengesellschaft		<input type="checkbox"/>
4	197 42 706	DE		1999-04-15	Skerra Arne Prof Dr		<input type="checkbox"/>
5	0 533 838	EP		1993-03-31	Univ Colorado Foundation		<input type="checkbox"/>
6	98/08856	WO		1998-03-08	Furste, et al.		<input type="checkbox"/>
7	97/30721	WO		2007-03-19	Boehringer Ingelheim International GmbH		<input type="checkbox"/>
8	99/38528	WO		1999-08-05	Boehringer Ingelheim GmbH		<input type="checkbox"/>
9	02/13857	WO		2002-02-21	Cistem Biotechnologies GmbH		<input type="checkbox"/>
10	02/32451	WO		2002-04-25	Cistem Biotechnologies GmbH		<input type="checkbox"/>
11	01/93905	WO		2001-12-13	Cistem Biotechnologies GmbH		<input type="checkbox"/>

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	12	01/54720	WO		2001-02-02	Cistem Biotechnologies GmbH	<input type="checkbox"/>
	13	01/93903	WO		2001-12-13	Cistem Biotechnologies GmbH	<input type="checkbox"/>
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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T5
	1	Adamou, J., et al. (2001). "Identification and Characterization of a Novel Family of Pneumococcal Proteins That Are Protective against Sepsis" Infect Immun 69: 949-58	<input type="checkbox"/>
	2	Altschul, S., et al. (1990). "Basic Local Alignment Search Tool" Journal of Molecular Biology 215: 403-10	<input type="checkbox"/>
	3	Bennett, D., et al. (1995). J Mol Recognit 8: 52-8	<input type="checkbox"/>
	4	Brown, J., et al. (2001). "Immunization with Components of Two Iron Uptake ABC Transporters Protects Mice against Systemic Streptococcus pneumoniae Infection" Infect Immun 69: 6702-6	<input type="checkbox"/>

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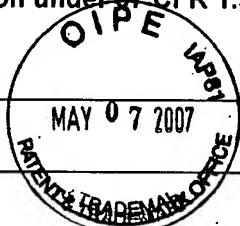
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5	Burnie, J., et al. (1998). "The renaissance of antibody therapy" J Antimicrob Chemother 41: 319-22	<input type="checkbox"/>
6	Clackson, T., et al. (1991). Nature 352: 624-8	<input type="checkbox"/>
7	Devereux, J., et al. (1984). "A comprehensive set of sequence analysis programs for the VAX" Nucleic acids research 12: 387-95	<input type="checkbox"/>
8	Di Guilmi, A., et al. (2002). "New approaches towards the identification of antibiotic and vaccine targets in Streptococcus pneumoniae" EMBO Reports 3: 728-34	<input type="checkbox"/>
9	Doherty, E., et al. (2001). Annu Rev Biophys Biomol Struct 30: 457-475	<input type="checkbox"/>
10	Eisenbraun, M., et al. (1993). DNA Cell Biol 12: 791-7	<input type="checkbox"/>
11	Wizemann, T., et al. (2001). "Use of a Whole Genome Approach To Identify Vaccine Molecules Affording Protection against Streptococcus pneumoniae Infection" Infect Immun 69: 1593-8	<input type="checkbox"/>
12	Etz, H., et al. (2001). "Bacterial Phage Receptors, Versatile Tools for Display of Polypeptides on the Cell Surface" J Bacteriol 183: 6924-35	<input type="checkbox"/>
13	Ganz, T. (1999). "Defensins and Host Defense." Science 286: 420-421	<input type="checkbox"/>
14	Georgiou, G. (1997). "Display of heterologous proteins on the surface of microorganisms: From the screening of combinatorial libraries to live recombinant vaccines" Nature Biotechnology 15: 29-34	<input type="checkbox"/>
15	Gray, B., et al. (1979). J Infect Dis 140: 979-83	<input type="checkbox"/>

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16	Gray, B., et al. (1986). Pediatr Infect Dis 5: 201-7	<input type="checkbox"/>
17	Hashemzadeh-Bonehi, L., et al. (1998). Mol Microbiol 30: 676-678	<input type="checkbox"/>
18	Hausdorff, W., et al. (2001). "Geographical differences in invasive pneumococcal disease rates and serotype frequency in young children" Lancet 357: 950-2	<input type="checkbox"/>
19	Tettelin, H., et al. (2001). Science 293: 498-506.	<input type="checkbox"/>
20	Hemmer, B., et al. (1999). "Identification of candidate T-cell epitopes and molecular mimics in chronic Lyme disease" Nat Med 5: 1375-82	<input type="checkbox"/>
21	Hoe, N., et al. (2001). "Distribution of Streptococcal Inhibitor of Complement Variants in Pharyngitis and Invasive Isolates in an Epidemic of Serotype M1 Group A Streptococcus Infection" J Infect Dis 183: 633-9	<input type="checkbox"/>
22	Hornef, M., et al. (2002). "Bacterial strategies for overcoming host innate and adaptive immune responses" Nat Immunol 3: 1033-40	<input type="checkbox"/>
23	Hoskins, J., et al. (2001). "Genome of the Bacterium Streptococcus pneumoniae Strain R6" J Bacteriol 183: 5709-17	<input type="checkbox"/>
24	Hyde, T., et al. (2001). "Macrolide Resistance Among Invasive Streptococcus pneumoniae Isolates" JAMA 286: 1857-62	<input type="checkbox"/>
25	Jedrzejas, M. (2001). Microbiol Mol Biol Rev 65: 187-207	<input type="checkbox"/>
26	Johanson, K., et al. (1995). "Binding Interactions of Human Interleukin 5 with Its Receptor Subunit" J Biol Chem 270: 9459-71	<input type="checkbox"/>

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27	Jones, P., et al. (1986). "Replacing the complementarity-determining regions in a human antibody with those from a mouse" Nature 321: 522-5	<input type="checkbox"/>
28	Kajava, A., et al. (2000). "The Net Charge of the First 18 Residues of the Mature Sequence Affects Protein Translocation across the Cytoplasmic Membrane of Gram-Negative Bacteria" J Bacteriol 182: 2163-9	<input type="checkbox"/>
29	Kohler, G., et al. (1975). "Continuous cultures of fused cells secreting antibody of predefined specificity" Nature 256: 495-7	<input type="checkbox"/>
30	Kolaskar, A., et al. (1990). "A semi-empirical method for prediction of antigenic determinants on protein antigens" FEBS Lett 276: 172-4	<input type="checkbox"/>
31	Lewin, A., et al. (2001). "Ribozyme gene therapy: applications for molecular medicine" Trends Mol Med 7: 221-8	<input type="checkbox"/>
32	Marks, J., et al. (1992). Biotechnology (N Y) 10: 779-83	<input type="checkbox"/>
33	McCafferty, J., et al. (1990). Nature 348: 552-4	<input type="checkbox"/>
34	McCormick, A., et al. (2003). "Geographic diversity and temporal trends of antimicrobial resistance in Streptococcus pneumoniae in the United States" Nat Med 9: 424-30	<input type="checkbox"/>
35	McDaniel, L., et al. (1991). "PspA, a surface protein of Streptococcus pneumoniae, is capable of eliciting protection against pneumococci of more than one capsular type" Infect Immun 59: 222-8	<input type="checkbox"/>
36	Navarre, W., et al. (1999). Microbiol Mol Biol Rev 63: 174-229	<input type="checkbox"/>
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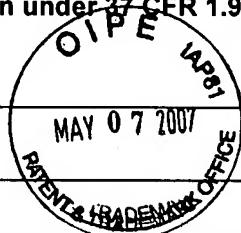
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38	Tourdot, S., et al. (2000). "A general strategy to enhance immunogenicity of low-affinity HLA-A2.1-associated peptides: implication in the identification of cryptic tumor epitopes" Eur J Immunol 30: 3411-21.	<input type="checkbox"/>
39	Orange, M., et al. (1993). Pediatr Infect Dis J 12: 244-6	<input type="checkbox"/>
40	Pelton, S., et al. (2003). "Pneumococcal conjugate vaccines: proceedings from an Interactive Symposium at the 41st Interscience Conference on Antimicrobial Agents and Chemotherapy" Vaccine 21: 1562-71	<input type="checkbox"/>
41	Phillips-Quagliata, J., et al. (2000). "The IgA/IgM Receptor Expressed on a Murine B Cell Lymphoma Is Poly-Ig Receptor" J Immunol 165: 2544-55	<input type="checkbox"/>
42	Rammensee, H., et al. (1999). "SYFPEITHI: database for MHC ligands and peptide motifs" Immunogenetics 50: 213-9	<input type="checkbox"/>
43	Roche, H., et al. (2003). "Regions of PspA/EF3296 Best Able To Elicit Protection against Streptococcus pneumoniae in a Murine Infection Model" Infect Immun 71: 1033-41	<input type="checkbox"/>
44	Romero-Steiner, S., et al. (1999). "Reduction in Functional Antibody Activity Against Streptococcus pneumoniae in Vaccinated Elderly Individuals Highly Correlates with Decreased IgG Antibody Avidity" Clin Infect Dis 29: 281-8	<input type="checkbox"/>
45	Rosenow, C., et al. (1997). "Contribution of novel choline-binding proteins to adherence, colonization and immunogenicity of Streptococcus pneumoniae" Mol Microbiol 25: 819-29	<input type="checkbox"/>
46	Seeger, C., et al. (1984). "The Cloned Genome of Ground Squirrel Hepatitis Virus is Infectious in the Animal" Proc Natl Acad Sci U S A 81: 5849-52	<input type="checkbox"/>
47	Shibuya, A., et al. (2000). "Fc receptor mediates endocytosis of IgM-coated microbes" Nature Immunology 1: 441-6	<input type="checkbox"/>
48	Sekrra, A. et al. (1994). "Use of the tetracycline promoter for the tightly regulated production of a murine antibody fragment in Escherichia coli" 151: 131-5	<input type="checkbox"/>

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49	Talkington, D. et al (1996) Microb Pathog 21: 17-22	<input type="checkbox"/>
50	Tang, D., et al. (1992). Nature 356: 152-4.	<input type="checkbox"/>

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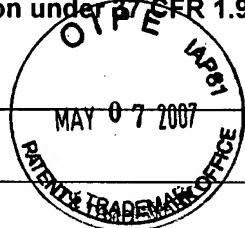
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**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

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 Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.  
 None

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